

The Geographical Redistribution of Employment:

An Examination of the Elements of Change

MEASURED by changes in employment, a substantial geographical redistribution of economic activity took place in the two decades following 1940. For the Nation as a whole, employment increased by 21 million persons, or 46 percent, between 1940 and 1960. In the Far West employment more than doubled, and in the Southwest and the Rocky Mountain States it increased by about two-thirds. In sharp contrast the increase in the three regions of the Atlantic Coast—New England, the Midwest and the Southeast—was a little more than one-third. The smallest gain among the regions was that of the Plains States, where the increase was about one-fourth. Only in the industrial Great Lakes area did the employment growth rate approximately equal that of the Nation. (See table 1.)

This regional pattern of differential growth has been a persistent one, holding in each of the two decades as well as over the entire 20-year period. The only exception to this was in the Great Lakes area where employment expanded at above-average rates during World War II and its aftermath, but at less-than-average rates during the 1950's.

This article provides a rational and orderly method for sorting out the factors which relate to the differences in the rates of growth among regions. The principal standard of reference is the growth rate of the Nation as a whole, both in total employment and in employment within the various industries. There is no attempt to explain the ultimate causes for the rate of employment growth in the Nation or in the several regions.

Many of the factors underlying the differential employment changes are well known and have been frequently

noted in the SURVEY.¹ For example, the top-ranking employment gains of the Far West in the 1940's reflected the tremendous impact of World War II. Similarly, the above-average gains of the Great Lakes States during the 1940's were mainly the product of that region's initial excess industrial capacity and the demands generated by the Nation's military effort. In the post-war years of the 1950's, these two regions were differently oriented to the particular demands of a civilian economy. During both decades, the declining relative importance of food and fiber in the national product, and the rapid mechanization of its agricultural production account to a large degree for the comparatively small employment rise in many States. In the Plains and Southeast regions, in particular, the failure to make up for the employment losses in agriculture left an overall employment deficit.

Though many broad generalizations can be made concerning regional economic change in an economy as large and diverse as the United States even the alert observer finds it difficult to note and weigh the total pattern of change. With a multiplicity of industries and geographic areas, consideration of the performance of each industrial-regional combination over a given time period becomes a formidable task in the handling of information. It is the sort of problem which demands resolution for the benefit of the interested analyst. Once the data problem is simplified, the businessman, professional economist or other investigator can quickly orient himself to the basic facts. At that point he can bring to

bear whatever additional resources of insight and analysis he may possess to yield fruitful generalizations concerning the particular situation.

Why does a region grow more or less rapidly than the Nation? This ques-

Table 1.—Percent Change in Employment by States and Regions, Selected Years¹

	Percent change		
	1940-50	1950-60	1940-60
United States.....	26.7	35.5	48.3
New England.....	19.4	23.0	35.2
Maine.....	12.8	10.3	23.6
New Hampshire.....	13.1	18.8	30.9
Vermont.....	10.0	3.7	14.1
Massachusetts.....	20.8	10.4	33.0
Rhode Island.....	31.3	6.8	29.2
Connecticut.....	22.6	22.6	30.3
Midwest.....	22.3	11.4	36.9
New York.....	20.0	11.3	33.6
New Jersey.....	27.3	30.0	62.8
Pennsylvania.....	22.2	5.0	29.2
Delaware.....	16.3	32.7	63.6
Maryland.....	34.6	27.5	71.6
District of Columbia.....	25.9	-2.0	14.6
Great Lakes.....	28.9	12.3	44.6
Michigan.....	31.7	14.0	50.3
Ohio.....	30.6	14.8	50.2
Indiana.....	32.0	13.6	48.9
Illinois.....	25.6	10.0	37.1
Wisconsin.....	28.0	8.5	38.9
Plains.....	19.2	5.7	25.9
Minnesota.....	23.8	3.0	32.9
Iowa.....	16.3	1.8	18.2
Missouri.....	17.5	5.3	29.8
North Dakota.....	11.7	-2.6	8.8
South Dakota.....	19.9	-0.8	19.0
Nebraska.....	18.8	4.8	24.3
Kansas.....	23.5	13.4	40.8
Southeast.....	20.6	12.4	35.6
Virginia.....	24.9	17.1	58.0
West Virginia.....	21.1	-14.3	3.9
Kentucky.....	18.3	-0.3	14.9
Tennessee.....	22.6	8.1	32.4
North Carolina.....	24.6	11.6	38.9
South Carolina.....	16.7	11.7	30.3
Georgia.....	16.7	12.2	31.0
Florida.....	33.9	70.9	102.8
Alabama.....	16.4	4.7	21.8
Mississippi.....	0.5	-3.6	-3.3
Louisiana.....	15.0	15.8	38.2
Arkansas.....	3.7	-7.1	-1.7
Southwest.....	32.8	23.6	63.7
Oklahoma.....	16.5	6.6	24.2
Texas.....	33.8	21.7	62.9
New Mexico.....	55.6	42.6	109.8
Arizona.....	68.8	91.6	197.6
Rocky Mountain.....	36.6	23.1	67.7
Montana.....	18.9	7.8	28.6
Idaho.....	30.1	14.9	49.6
Wyoming.....	32.4	7.5	42.4
Colorado.....	40.7	38.0	87.2
Utah.....	54.7	32.6	105.2
Far West.....	55.5	48.1	115.8
Washington.....	47.8	17.0	73.5
Oregon.....	48.6	11.2	65.3
Nevada.....	60.0	30.6	108.9
California.....	61.4	48.7	140.0
Alaska.....	117.0	45.0	224.5
Hawaii.....	5.3	34.8	41.9

¹ See, for example, "Factors Underlying Changes in the Geographic Distribution of Income," by Robert E. Graham, Jr., in the April 1964 issue of the SURVEY. Also, PERSONAL INCOME BY STATES SINCE 1929, a supplement to the SURVEY, which can be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402—Price \$1.50.

² Basic data are from the U.S. Census of Population, as shown in table 3.

Source: U.S. Department of Commerce, Office of Business Economics.

tion can be answered at varying levels of analysis. The technique to be illustrated here is built on the assumption that it is necessary to know of a region two basic facts regarding its growth situation: First, does the region have a rapid or a slow-growth industrial mix or distribution of industries; and, second, is it increasing or decreasing its share of each of its industries? Regarding the first point—the rate of growth of a particular national industry is characterized as rapid or slow in terms of the growth rate of all national industries combined over the same period. As for the second point—the rate of growth of a region within a particular industry may be rapid or slow in terms of the growth rate of that industry nationally.

An Illustration: the State of Washington

These abstractions can be pinned down to a concrete example by looking at the contract construction industry in the State of Washington in the decade of the 1940's. Table 2 shows employment in each of 32 industrial categories for the State from 1940 to 1960. Line number 4 represents the contract construction industry. The data in columns A, B, and C on the left present the employment levels in the industry in 1940, 1950 and 1960, respectively. The entries in columns D, E, and F for the 1940's (and columns I, J, and K for the 1950's) have been computed using total national employment growth and contract construction national employment growth as standards of measurement.

If the illustration is limited to the decade of the 1940's, we need only the following information:

	Employment (in thousands)		Percent Change
	1940	1960	1940-60
United States, total	45,373.8	57,474.9	26.66
United States, contract construction	2,068.5	3,457.2	67.14
State of Washington, contract construction	27.4	68.9	84.22

The entry in column D of table 2 shows 10.0 thousand employees. This number represents the increase from 1940 to 1950 that would have occurred

in employment in contract construction in the State if it had increased at the national rate for all industries combined in the same period. Thus, an overall standard of performance is implied in this number, is computed as follows:

$$\text{Growth at the U.S. total rate:} \\ (37.4) (0.2666) = 10.0 \text{ thousand.}$$

The figure in column E represents essentially an adjustment for the fact that in the decade of the 1940's, con-

tract construction was a rapid growth industry; that is, its national employment expansion rate was greater than that of all national industries combined. From the national contract construction rate, we subtract the national all industry rate and apply the result to the employment base in 1940 to obtain the entry of 15.1 thousand employees:

Growth adjustment related to national contract construction rate:

Table 2.—Employment and Components of Change, State of Washington, 1940-1950 and 1950-1960¹

(Thousands of employees)²

Line	Employment			1940-50					1950-60				
	1940	1950	1960	Changes related to			Total change	Net relative change	Changes related to			Total change	Net relative change
				National growth	Industrial mix	Regional share			National growth	Industrial mix	Regional share		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
1 Agriculture.....	83.5	79.2	61.8	23.3	-37.2	9.7	-6.3	-27.5	12.1	-22.2	13.6	-16.5	-23.6
2 Forestry and fisheries.....	5.0	5.5	4.7	1.3	-0.5	1.1	1.0	0.0	1.1	-2.8	-1.4	-2.2	-3.3
3 Mining.....	5.4	3.9	1.5	1.4	-1.4	-1.0	-1.5	-3.0	.6	-1.8	-1.3	-2.3	-2.8
4 Contract construction.....	37.4	68.9	67.5	10.0	15.1	6.4	31.5	21.5	10.7	-3.5	-8.0	-1.3	-12.2
Manufacturing:													
5 Food and kindred products.....	16.7	21.6	23.0	4.5	.2	.3	4.9	.5	2.3	2.9	.7	7.0	3.5
6 Textile mill products.....	.7	1.1	1.3	.2	-.1	.4	.4	.2	.2	-.4	.4	.2	.0
7 Apparel.....	2.3	2.5	4.0	.8	-.1	-.4	.4	-.2	.4	-.2	1.1	1.4	1.0
8 Lumber, wood products, furniture.....	61.2	61.3	61.8	16.3	.0	-16.2	.1	-16.3	6.5	-15.3	-3.1	-9.4	-28.9
9 Printing and publishing.....	7.8	18.9	14.9	2.1	.7	.0	2.1	1.0	1.7	2.0	.2	4.0	2.3
10 Chemicals and allied products.....	1.9	8.0	11.3	.5	.4	6.3	7.1	5.7	1.4	1.4	-.8	2.3	.9
11 Electrical and other machinery.....	3.3	4.0	12.4	.9	2.2	-.2	2.9	2.0	.8	1.9	3.6	6.4	5.4
12 Motor vehicles and equipment.....	.8	1.5	2.8	.2	.2	.2	.7	.4	.2	-.3	1.2	1.2	.9
13 Other transportation equipment.....	14.1	28.0	70.1	3.6	4.3	6.8	13.9	10.1	4.3	24.4	13.4	42.1	37.7
14 Other and miscellaneous.....	22.2	26.3	40.9	5.9	1.4	6.7	14.0	3.1	5.6	1.3	6.8	13.6	8.0
15 Railroads and railway express.....	18.9	21.1	16.6	4.3	-.7	1.7	6.3	1.0	3.3	-10.1	1.3	-5.5	-8.7
16 Trucking and warehousing.....	7.9	11.5	13.8	2.1	1.0	.5	3.6	1.5	1.8	1.6	-1.0	2.4	.6
17 Other transportation.....	13.3	20.2	20.2	3.5	4.3	-1.0	6.9	3.3	3.1	-2.4	-.5	.0	3.1
18 Communications.....	6.3	12.5	13.7	1.7	2.4	1.3	4.2	4.5	1.9	.0	-.7	1.2	-.7
19 Utilities and sanitary service.....	8.2	12.6	13.8	2.2	1.4	.8	4.4	2.2	1.9	-.1	-.0	1.2	-.7
20 Wholesale trade.....	21.5	32.4	42.1	5.7	3.0	-2.6	10.9	5.2	5.0	-1.2	5.9	9.7	4.6
21 Food and dairy products stores.....	20.7	25.2	25.2	5.5	-2.3	1.3	4.5	1.0	2.9	-4.4	.5	.0	-3.9
22 Eating and drinking places.....	18.1	30.9	36.1	4.8	4.4	2.7	11.9	7.1	4.6	-2.7	-1.7	.3	-4.6
23 Other retail trade.....	56.8	84.4	83.3	14.9	8.7	9.0	30.6	15.7	12.4	1.7	-2.8	12.4	-1.0
24 Finance, insurance and real estate.....	21.4	33.1	41.8	6.7	.9	4.0	10.6	4.9	6.0	6.0	-3.2	10.7	6.8
25 Hotels and other personal services.....	24.7	28.0	28.2	6.6	-4.1	2.8	4.3	1.2	4.8	-3.4	-2.1	-.9	-4.5
26 Private households.....	10.9	16.7	27.8	3.3	-11.2	2.8	-3.1	8.4	2.6	.2	8.0	10.9	3.2
27 Business and repair services.....	14.0	21.9	23.4	3.7	2.5	.0	8.0	4.3	3.4	1.6	-3.5	1.6	-1.9
28 Entertainment, recreation services.....	6.7	8.0	8.0	1.5	-.3	.0	2.2	.7	1.2	-1.1	-.1	.0	-1.2
29 Medical, other professional services.....	47.7	33.9	133.3	12.7	8.3	15.2	36.2	23.4	13.0	35.0	.8	49.5	35.5
30 Public administration.....	22.4	46.4	62.7	6.0	2.6	8.7	24.2	15.3	7.3	8.6	-6.7	6.1	1.1
31 Armed forces.....	12.7	55.2	52.5	3.7	28.6	10.9	43.2	26.2	38.4	-43.6	-4.4	13.2	
32 Industry not reported.....	2.3	12.8	20.0	2.2	-.4	2.7	4.5	3.3	2.0	24.8	-10.5	15.3	14.3
Total.....	507.7	836.3	1,054.4	162.0	46.5	64.7	298.2	127.2	138.9	60.6	-22.8	157.3	18.6

¹ Derivation of each component is explained on pages 14 and 15. Note.—Detail will not add due to rounding.

² Data are from the U.S. Census of Population.

³ Sum of components D, E, and F for 1940-50 and I, J, and K for 1950-60.

⁴ Sum of columns E and F for 1940-50 and J and K for 1950-60.

Source: U.S. Department of Commerce, Office of Business Economics.

$$(37.4) (0.6714 - 0.2668) = (37.4) \\ (0.4048) = 15.1 \text{ thousand.}$$

The final element of change, in column F, represents an adjustment for the fact that contract construction expanded more rapidly from 1940 to 1950 in Washington State than in the Nation as a whole. From the State's contract construction rate, we subtract the national contract construction rate and apply the result to the employment base in 1940 to obtain the entry of 6.4 thousand employees:

Growth adjustment related to State of Washington contract construction rate:

$$(37.4) (0.8422 - 0.6714) = (37.4) \\ (0.1708) = 6.4 \text{ thousand.}$$

In summary, we have noted that the employment change in contract construction in the State of Washington would have been 10.0 thousand had it grown at the national rate for all industries combined. But after making adjustment for the fact that this was one of the Nation's rapid growth industries and for the fact that the State was doing better than the average area in this industry, it turned out that the actual employment change in contract construction in Washington was 31.5 thousand.

Thus, from the contract construction line of table 2 we can pick up the following entries:

Column D, change related to national growth..... 10.0 thousand

Column E, change related to particular industry (industrial mix)..... 15.1 thousand

Column F, change related to particular region (regional share)..... 6.4 thousand

Column G, total change (sum of columns D, E and F)..... 31.5 thousand

Column H, net relative change (sum of columns E and F)..... 21.5 thousand

Thus it is evident from column H, that the State had a positive net relative change or deviation from the overall national performance standard in this particular industry.

But what of the 31 other industrial categories shown in table 2? It will be noted that not all of the State's industries were in the rapid growth category. Some, like agriculture, forestry, and fisheries and mining were slow growth industries. The employment change entries for these and several other industries are, therefore, preceded by minus signs in column E (industrial mix). Similarly, the minus signs in

column F (regional share) indicate that employment grew less rapidly in the State of Washington than in the Nation as a whole in these particular industries.

State of Washington summary

It is not necessary at this point to analyze the performance of all industries

in detail. It is important to consider, however, how well the State of Washington did in an overall sense during the 1940's in terms of employment growth. The answer to this latter question is to be found in the "Total" line at the bottom of the table. Here the entries are the simple algebraic

Table 3.—Employment and Components of Employment Change, Regions and States, 1940-50 and 1950-60¹

(Thousands of employees)²

	Employment			1940-50					1950-60				
	1940	1950	1960	Changes related to			Total change	Net relative change	Changes related to			Total change	Net relative change
				National growth	Industrial mix	Regional share			National growth	Industrial mix	Regional share		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
United States	45,376.9	67,474.9	66,372.6	12,099.1	0.0	0.0	12,099.1	0.0	12,099.1	0.0	0.0	12,099.1	0.0
New England	3,068.1	3,681.3	4,137.9	614.8	228.2	-446.1	601.0	-214.9	568.8	133.2	-268.2	478.8	-30.6
Maine	278.0	315.2	347.7	74.8	0.4	-38.6	34.2	-38.2	42.8	-7.2	-8.2	32.4	-18.4
N.H.	178.0	203.2	240.9	49.4	3.0	-23.7	27.2	-19.7	31.4	-6.4	6.4	37.7	6.2
Vt.	125.7	157.6	142.7	33.4	-4.8	-16.0	12.6	-23.8	21.3	-7.5	5.2	5.0	-10.3
Mass.	1,534.8	1,849.8	2,047.7	408.2	139.0	-234.3	314.8	-94.4	293.3	126.2	-220.5	192.1	-94.2
R.I.	304.7	323.1	342.1	70.6	20.2	-34.4	56.3	-14.2	49.7	9.2	-37.9	21.0	-28.7
Conn.	860.5	834.4	1,022.9	161.4	65.6	-94.0	163.9	-27.5	120.2	77.9	-18.6	169.5	59.3
Mideast	10,876.2	13,363.2	14,392.1	2,506.9	821.4	-1,234.9	2,497.0	-413.9	2,453.9	763.4	-2,288.2	1,528.2	-338.9
N.Y.	4,974.8	6,571.9	6,848.6	1,874.4	424.1	-753.1	967.4	-329.0	924.9	425.9	-681.8	668.7	-355.6
N.J.	1,699.1	1,997.0	2,173.1	418.4	167.2	-147.6	428.0	9.8	309.2	192.4	-52.9	400.1	90.9
Pa.	3,290.2	3,948.8	4,143.1	653.2	122.0	-294.7	713.6	-142.7	611.3	65.1	-481.1	168.3	-413.0
Del.	102.6	127.1	139.4	27.3	3.3	-3.2	24.4	-2.9	19.7	3.6	-12.4	42.8	23.2
Md.	690.9	828.5	1,154.4	134.2	47.3	-3.2	228.6	54.4	143.9	63.3	-48.6	255.9	112.0
Dist. of Col.	308.0	384.9	534.0	82.4	39.6	-61.9	80.0	-2.4	60.2	42.8	-143.0	-34.9	-83.1
Great Lakes	9,258.8	11,941.3	12,461.4	2,462.3	507.1	-300.8	2,674.5	206.3	1,847.1	277.1	-432.1	1,673.1	-315.0
Mich.	1,325.0	2,494.0	2,740.4	496.0	142.3	-49.7	579.1	92.6	372.2	3.3	-38.8	336.4	-35.8
Ohio	2,345.0	3,047.7	3,521.8	622.2	146.0	-48.5	722.7	97.5	494.9	123.7	-144.8	434.1	-29.8
Ind.	1,161.7	1,524.8	1,724.6	337.1	29.5	32.4	369.0	62.0	236.4	17.0	-40.7	293.7	-29.7
Ill.	3,874.4	5,581.2	5,949.9	765.4	211.9	-271.6	703.8	-69.7	554.4	188.7	-303.4	348.7	-194.7
Wis.	1,060.3	1,347.6	1,473.9	282.8	-22.6	36.6	294.9	14.0	210.2	-34.2	-58.6	118.2	-94.0
Plains	4,513.5	5,378.9	5,683.3	1,349.5	-315.6	-21.5	865.4	-338.1	532.7	-328.5	-267.4	394.9	-528.8
Minn.	931.3	1,443.1	1,333.3	248.4	-34.8	21.0	214.6	-34.8	177.4	-71.8	-12.4	92.2	-85.2
Iowa	832.8	1,004.1	1,020.7	224.1	-70.3	-13.9	140.3	-59.7	155.3	-39.3	-25.4	17.9	-127.7
Mo.	1,297.1	1,594.7	1,605.7	345.9	-35.9	-62.4	227.6	-113.3	233.6	-28.9	-123.4	81.1	-150.0
N.Dak.	300.4	233.6	218.0	33.4	-38.0	8.4	22.4	-30.1	34.6	-40.8	0.4	-5.8	-40.4
S.Dak.	204.5	245.2	243.3	54.5	-32.3	18.7	40.7	-13.8	35.0	-30.1	-2.8	-1.9	-39.5
Nebr.	433.4	515.1	529.7	118.6	-40.2	6.4	84.7	-33.9	79.7	-42.2	-13.2	24.6	-55.1
Kans.	583.8	721.0	817.6	153.7	-38.5	20.1	127.7	-13.5	111.6	-31.4	16.4	95.6	-35.0
Southeast	3,873.1	10,312.4	13,484.1	2,634.4	-1,299.1	799.8	2,035.1	-358.3	1,544.3	-1,862.4	718.3	1,599.7	-343.8
Va.	863.1	1,268.1	1,472.9	345.6	-8.4	65.7	320.0	77.3	194.9	8.7	-10.2	214.8	19.9
W. Va.	510.1	628.8	539.1	138.4	-37.9	9.2	109.7	-32.7	97.3	-33.9	-121.3	-89.7	-157.1
Ky.	547.6	877.2	874.2	228.0	-102.4	0.0	129.6	-96.4	151.9	-104.9	-49.3	-2.9	-194.2
Tenn.	941.7	1,153.2	1,246.9	253.1	-117.4	77.8	211.3	-39.6	178.3	-78.3	-5.4	93.0	-84.9
N.C.	1,208.7	1,908.3	1,579.4	322.3	-184.9	161.3	290.7	-24.6	233.8	-196.6	137.0	179.1	-82.0
S.C.	641.1	771.5	801.7	170.3	-123.4	57.7	110.4	-85.9	100.4	-114.9	85.7	90.2	-29.3
Ga.	1,107.4	1,246.4	1,482.9	295.3	-130.0	39.9	185.2	-110.1	312.1	-130.6	78.8	153.3	-41.3
Fla.	653.3	1,054.9	1,795.5	182.2	-13.2	202.0	387.0	185.4	164.7	1.2	560.1	744.6	584.9
Ala.	863.8	1,044.2	1,082.7	228.3	-150.0	67.9	146.3	-93.0	191.0	-117.3	6.3	88.5	-112.5
Miss.	727.5	780.9	703.3	194.0	-183.0	-6.0	8.9	-190.5	113.2	-335.3	-3.8	-27.9	-140.8
La.	771.1	896.4	1,026.9	255.6	-87.7	-2.0	115.8	-90.3	137.2	-45.1	48.4	140.5	3.8
Ark.	583.9	817.3	873.7	155.7	-122.1	-8.2	33.4	-122.3	95.6	-93.6	-45.6	-43.6	-139.2
Southwest	2,087.5	4,891.8	5,055.5	823.3	-228.7	461.4	1,903.9	184.7	833.4	-160.8	431.5	964.1	326.7
Okla.	658.7	767.1	818.1	175.6	-38.4	-8.9	108.3	-67.3	118.7	-39.1	-23.0	51.0	-67.7
Tex.	2,138.4	2,890.3	2,489.9	570.2	-142.9	294.6	721.9	151.7	442.8	-53.2	229.0	620.6	177.6
N. Mex.	140.3	218.2	306.6	37.4	-13.7	54.1	77.9	40.3	33.8	-2.8	61.6	91.6	87.9
Ariz.	150.2	245.0	449.8	40.0	-5.8	61.5	95.9	63.9	38.1	-6.7	169.5	200.9	162.8
Rocky Moun.	923.4	1,244.1	1,558.3	247.8	-33.1	120.9	334.7	88.9	195.7	-64.6	163.1	284.2	98.6
Idaho	185.0	220.8	237.6	49.6	-15.1	0.5	34.9	-14.5	24.1	-24.2	7.2	17.1	-17.0
Wyoming	158.0	206.4	237.2	42.4	-15.6	22.4	47.5	5.3	32.0	-28.7	22.5	30.5	-1.2
Wyo.	89.0	114.7	133.3	23.1	1.6	3.5	28.2	5.1	17.9	-8.3	-0.7	8.9	-0.2
Colo.	349.7	425.1	654.7	94.3	-2.2	51.3	142.3	49.1	76.2	-2.0	85.4	182.5	38.5
Utah	148.9	238.4	305.5	39.7	-0.6	42.4	81.6	41.9	34.7	-6.2	45.8	75.1	39.4
Far West	3,773.7	5,871.3	6,227.9	1,044.3	316.2	774.9	2,997.4	1,091.1	986.9	316.0	1,132.6	2,356.6	1,447.6
Wash.	697.7	896.9	1,054.4	162.0	46.5	80.7	289.3	127.2	135.0	60.6	-32.0	157.5	38.0
Oreg.	389.8	578.4	614.2	103.9	-0.3	86.0	189.6	85.6	89.7	-24.1	-0.7	64.9	-24.8
Nev.	41.5	68.4	119.9	11.1	-0.6	14.3	24.9	12.8	19.3	-1.9	45.3	53.8	43.3
Calif.	2,623.3	4,078.5	4,651.7	673.3	228.4	647.4	1,660.2	876.9	630.9	209.7	1,085.6	1,980.9	1,355.3
Alaska	28.5	52.7	90.9	7.7	-0.8	26.8	58.8	26.0	9.7	11.3	7.3	28.2	13.5
Hawaii	180.8	190.4	250.6	48.2	42.0	-80.6	9.6	-38.6	29.5	9.5	27.2	66.3	34.7

¹ Derivation of each component is explained on pages 14 and 15. Detail will not add to totals due to rounding.

² Components are the result of summation across analytical results for each of 32 industrial categories. Data are from the U.S. Census.

³ Sum of components D, E, and F for 1940-50 and I, J, and K for 1950-60.

⁴ Sum of columns E and F for 1940-50 and J and K for 1950-60.

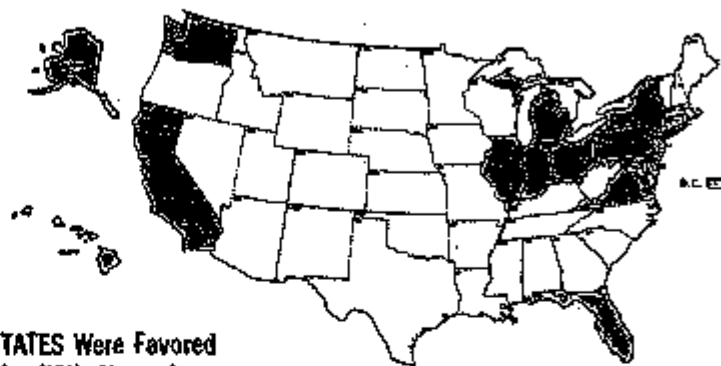
Source: U.S. Department of Commerce, Office of Business Economics.

State Employment Changes, 1940-60



1940-50

SHADED STATES Were Favored
by Industries With Above Average
NATIONAL Growth . . .

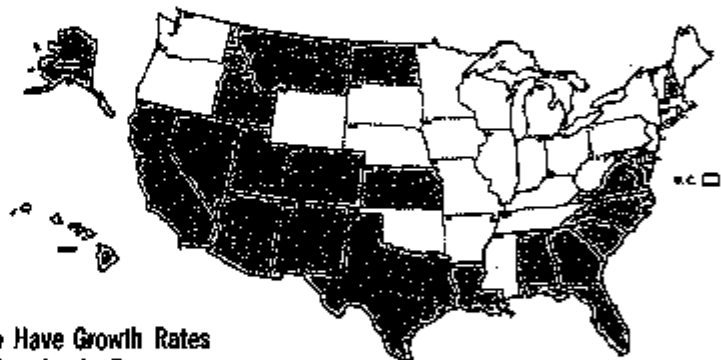


1950-60



1940-50

Tended To Have Growth Rates
Within Industries in Excess
of Their National Rates. . .

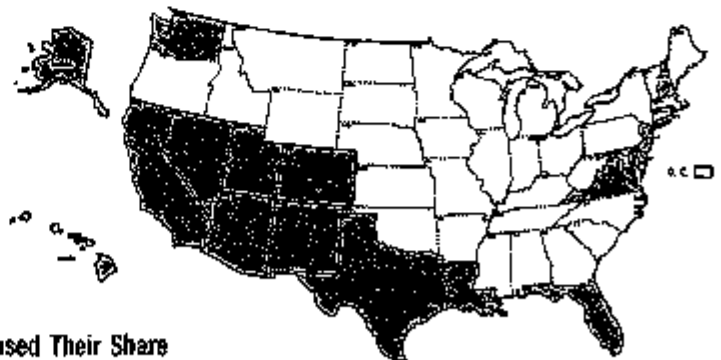


1950-60



1940-50

And Increased Their Share
of the Nation's TOTAL
Employment.



1950-60

sums of the corresponding entries for the separate industries:

Column D, change related to national growth.....	182.0 thousand
Column E, change related to industrial mix ¹	48.8 thousand
Column F, change related to regional share ¹	80.7 thousand
Column G, total change.....	289.2 thousand
Column H, net relative change (sum of columns E and F).....	127.2 thousand

In an overall sense the State did very well gaged by employment growth in the 1940's. On an aggregate basis the State of Washington exceeded the national employment growth standard

¹The industrial mix and regional share components, when summarized across two or more industries, depend in part upon the level of industrial detail (within a given total) under analysis. However, the changes in these two components which are induced by changes in the level of industrial detail are equal in absolute value and of opposite sign. It follows that their sum, the net relative change, is unaffected by any such changes in the level of aggregation.

Table 4.—Industrial Indexes of Regional Centralization, Eight Region Basis, 1940-1954 and 1960¹

	1940	1950	1960
1. Agriculture.....	0.31	0.30	0.27
2. Forestry and fisheries.....	.41	.38	.35
3. Mining.....	.29	.26	.34
4. Contract construction.....	.05	.06	.07
Manufacturing:			
5. Food and kindred products.....	.11	.10	.06
6. Textile mill products.....	.41	.43	.48
7. Apparel.....	.37	.36	.39
8. Lumber, wood products and furniture.....	.26	.28	.26
9. Printing and publishing.....	.16	.16	.13
10. Chemicals and allied products.....	.16	.14	.14
11. Electrical and other machinery.....	.35	.39	.26
12. Motor vehicles and equipment.....	.61	.67	.64
13. Other transportation equipment.....	.35	.27	.22
14. Other and miscellaneous.....	.27	.24	.18
15. Railroads and railway express.....	.07	.08	.10
16. Trucking and warehousing.....	.06	.07	.06
17. Other transportation.....	.16	.12	.11
18. Communications.....	.10	.08	.09
19. Utilities and sanitary service.....	.11	.09	.08
20. Wholesale trade.....	.08	.06	.05
21. Food and dairy products stores.....	.07	.06	.02
22. Eating and drinking places.....	.06	.05	.04
23. Other retail trade.....	.05	.03	.03
24. Finance, insurance and real estate.....	.15	.11	.07
25. Hotels and other personal services.....	.06	.04	.05
26. Private households.....	.11	.15	.17
27. Business and repair services.....	.08	.08	.07
28. Entertainment, recreation services.....	.19	.09	.10
29. Medical, other professional services.....	.04	.04	.03
30. Public administration.....	.10	.09	.07
31. Armed forces.....	.29	.34	.30
32. Industry not reported.....	.10	.05	.06
Weighted index.....	.12	.13	.12

¹ Method of computation:

- A distribution in decimal form is made of a particular industry's employment among eight regions (regions identified only in table 5).
- A distribution in decimal form is made of national total employment among eight regions (regions identified in table 5).
- Each regional element in B is subtracted from the corresponding regional element in A. The sum of the positive remainders is the index of centralization for the particular industry.
- The weighted index is an average of the individual industrial indexes where the weights are the respective national industrial employment totals.
- The indexes have the property that they can range from 0.00 to 1.00, and the larger the index the greater the centralization.

Source: U.S. Department of Commerce, Office of Business Economics.

by 127.2 thousand workers. However, the right hand side of table 2, which analyzes the performance from 1950 to 1960, reveals a still favorable though drastically changed picture. A differing set of State industrial growth rates analyzed against the backdrop of a changed national set yielded the relatively small net relative change of 18.8 thousand employees in the 1950's. (Column M.) As with its counterpart in the previous decade, this number reconciles the total employment change which could have been realized at the overall national rate with the change actually attained.

Comparative Results for All States

In table 3, the overall results of the employment-change analysis for the State of Washington are presented along with similar results for the other States. In addition, the results for regions are presented as the algebraic sums of the results for the component States. It is a convenient feature of the technique that whether the change elements are computed directly for a region or are summed from the computed elements for its subsidiary geographic areas, the results are identical.

The entries in table 3 show that at the regional level the industrial-mix and the regional-share components tend generally to pull in opposite directions. For example, in New England, the Mideast, and the Great Lakes regions a favorable industrial mix tended to boost employment in each of the two decades under study. Conversely, all three regions sustained preponderant losses in their shares of the several industries. In the two southern regions and in the Rocky Mountain States an opposite situation obtained. Here an unfavorable industrial mix—mainly the effect of heavy dependence upon agriculture—tended to suppress employment growth, but within the individual industries these regions enjoyed an increasing share of the national totals.

In the agricultural Plains States both the industrial mix and the regional share components of the individual industries subtracted from employment gains; in contrast, both factors contributed to the rapid expansion of employment in the Far West.

The facing map panels illustrate the statistical results shown in table 3 for the individual States in the 1940's and the 1950's. The upper left panel (based on column E) shows that in the 1940's there were 19 States (shaded) with positive industrial-mix components. These States (with four exceptions) were concentrated in a tightly compacted group in the New England, Mideast and Great Lakes regions. In the 1950's (based on column J) there were again 19 States with positive industrial-mix components. As compared with the earlier period, three were deleted (Wyoming, New Hampshire, and Maine) and three were added (Alaska, Virginia, and Florida). The first impression, therefore, is that no great change occurred: the same States, more or less, were showing industrial-mix gains in the 1950's as in the 1940's.

Trend toward similarity in industrial structure

Under the surface appearance, however, the relative strength of this favorable industrial composition was being weakened. From the 1940's to the 1950's industrial-mix components declined in size relative to regional share components because of the increasing similarity of the industrial structures of the various areas. The major factor

Table 5.—Regional Indexes of Industrial Specialization on a Thirty-Two Industry Basis¹

	1940	1950	1960
New England.....	0.20	0.17	0.14
Mideast.....	.16	.12	.10
Great Lakes.....	.13	.14	.12
Plains.....	.17	.17	.14
Southeast.....	.24	.19	.14
Southwest.....	.17	.14	.12
Rocky Mountain.....	.18	.18	.15
Far West.....	.17	.16	.11
Weighted index.....	.15	.14	.12
Homogeneity of industrial-regional structure.....	.92	.85	.88

¹ Method of computation:

- A distribution in decimal form is made of a particular region's employment among industries.
- A distribution in decimal form is made of national employment among industries.
- Each industrial element in B is subtracted from the corresponding industrial element in A. The sum of the positive remainders is the index of specialization for the particular region.
- The weighted index is an average of the individual regional indices where the weights are the respective regional employment totals.
- The indexes have the property that they can range from 0.00 to 1.00, and the larger the index the greater the specialization.
- The weighted indexes of specialization are equal to the weighted indexes of centralization as the corresponding points in time. The index of homogeneity of the industrial-regional structure is unity (1.00) minus either weighted index. This index also ranges from 0.00 to 1.00, and the larger the index the greater the homogeneity.

Source: U.S. Department of Commerce, Office of Business Economics.

in this increasing structural homogeneity has been the continuing migratory stream from rural (agricultural and other resource-based industries) to urban areas.

This means that the positions of States formerly most favored by industrial composition (in employment growth terms) are often undergoing an adverse adjustment while those formerly least favored are undergoing a favorable adjustment. Thus, when people leave agricultural employment in a southern State, that State's industrial structure becomes more like that of the Nation. The uniqueness which made for an unfavorable industrial mix has been decreased. How-

ever, the same drift out of agriculture reduces the industrial uniqueness of the nonagricultural States, since the entire national industrial mix is being moved in their direction.

The increasing industrial similarity of major regions is apparent from two supplementary indexes. The first is an index for each industry of its regional (that is, its geographical) centralization. These measures and their method of derivation are presented in table 4. It is evident that the tendency of most of the 32 industries under examination to cluster in limited regional areas is decreasing. In other words, most industries are becoming more dispersed geographically. There are, however,

some interesting exceptions. Mining, for example, shows a tendency to increase its regional concentration, a possible reflection of sizable employment losses in mining in the Midwest and Southeast, and, at the same time, sizable gains in mining (including petroleum extraction) in the Southwest. Another exception is found in the textile mill products industry. Employment in this manufacturing group, which has long been on the move out of New England, is becoming still more centered in the Carolinas and Georgia of the Southeast.

Regional indexes of industrial specialization provide another way of looking at the process of the homogenization of the industrial-regional structure; these indexes are presented in table 5. It is noteworthy that in every one of the eight regions, specialization declined from 1940 to 1960. The largest decline occurred in the Southeast, the smallest in the Great Lakes region. During this 20-year period, the Southeast has been relatively susceptible to structural change, with massive out-migrations from agriculture and some in migrations into other industrial pursuits. The Great Lakes, on the other hand, started with an already matured industrial complex which has remained relatively unchanged when measured against the industrial structure of the whole Nation.

A detailed examination of table 3 reveals a number of important changes that the map does not bring out. For example, Texas had an unfavorable industrial mix in both the 1940's and the 1950's. What the maps do not show, however, is that the Texas industrial-mix position was improved by 91.7 thousand in the 1950's, as compared with the 1940's (column J-column E). Michigan, on the other hand, although favored by its industrial mix in both periods, experienced a worsening of its position to the extent of 139.2 thousand. The first column of table 6 completely arrays all States as regards their change in industrial-mix position as they have moved from the earlier to the later decade.

Regional Share Performance

Attention is now turned to the regional share—as distinct from the indus-

Table 6.—Industrial Mix, Regional Share and Net Relative Change Displacements, 1940-50 to 1950-60¹

(Thousands of employees)

Industrial mix		Regional share		Net relative change	
United States.....	0.0	United States.....	0.0	United States.....	0.0
Texas.....	91.7	California.....	438.2	California.....	473.4
Mississippi.....	49.7	Florida.....	376.5	Florida.....	399.6
Louisiana.....	42.6	Arizona.....	304.0	Arizona.....	107.9
California.....	40.2	Hawaii.....	207.6	Louisiana.....	93.6
Alabama.....	42.1	New Jersey.....	38.1	Connecticut.....	36.0
Tennessee.....	38.0	New York.....	31.3	New Jersey.....	31.4
Georgia.....	29.5	Connecticut.....	73.4	Hawaii.....	75.8
Arkansas.....	28.6	Louisiana.....	51.0	New York.....	73.1
Florida.....	20.1	Maryland.....	41.7	Oregon.....	65.8
Oklahoma.....	19.3	Georgia.....	28.8	Maryland.....	57.6
Virginia.....	18.1	Colorado.....	37.1	Mississippi.....	49.8
Maryland.....	15.9	Nevada.....	30.7	Colorado.....	37.4
Alaska.....	12.1	Maine.....	26.5	South Carolina.....	35.6
Connecticut.....	11.4	New Hampshire.....	26.3	Nevada.....	28.5
New Mexico.....	9.0	South Carolina.....	27.9	Delaware.....	28.1
South Carolina.....	8.7	Delaware.....	24.6	Texas.....	28.0
Kansas.....	7.1	Massachusetts.....	13.9	New Hampshire.....	25.9
Iowa.....	6.9	Michigan.....	10.9	Maine.....	21.8
Missouri.....	6.4	New Mexico.....	7.5	New Mexico.....	17.4
Washington.....	4.0	Vermont.....	7.2	Vermont.....	4.5
Delaware.....	1.6	Montana.....	6.8	Kansas.....	3.4
Colorado.....	0.2	Utah.....	3.2	Massachusetts.....	0.2
Arizona.....	-0.9	Idaho.....	3.2	Oklahoma.....	-0.4
Nevada.....	-1.3	Mississippi.....	0.0	Montana.....	-2.4
Nebraska.....	-1.7	Rhode Island.....	-3.4	Utah.....	-2.5
North Dakota.....	-2.4	Kansas.....	-2.7	Idaho.....	-5.7
Kentucky.....	-2.5	Wyoming.....	-4.1	Alaska.....	-7.5
Vermont.....	-2.7	North Dakota.....	-3.0	North Dakota.....	-10.4
New Hampshire.....	-3.4	Nebraska.....	-19.5	Wyoming.....	-14.2
South Dakota.....	-3.6	Alaska.....	-19.5	Rhode Island.....	-14.4
Utah.....	-5.6	Oklahoma.....	-19.7	Arkansas.....	-16.8
New Jersey.....	-5.7	South Dakota.....	-22.4	Alabama.....	-20.5
Idaho.....	-5.9	North Carolina.....	-23.4	Nebraska.....	-21.2
Maine.....	-7.6	Minnesota.....	-34.5	South Dakota.....	-25.0
New York.....	-8.2	Missouri.....	-43.0	North Carolina.....	-33.4
Montana.....	-9.2	Arkansas.....	-45.2	Missouri.....	-34.7
District of Columbia.....	-9.6	Iowa.....	-54.9	Tennessee.....	-43.3
North Carolina.....	-10.0	Kentucky.....	-55.4	Iowa.....	-48.0
Wyoming.....	-10.1	Alabama.....	-52.6	Minnesota.....	-51.4
Rhode Island.....	-11.1	Texas.....	-63.0	Virginia.....	-57.4
Indiana.....	-12.5	Virginia.....	-73.5	Kentucky.....	-57.8
Wisconsin.....	-12.8	Indiana.....	-79.2	Indiana.....	-61.7
Massachusetts.....	-13.7	District of Columbia.....	-82.9	District of Columbia.....	-62.7
Minnesota.....	-15.9	Tennessee.....	-83.2	Wisconsin.....	-108.0
Ohio.....	-22.2	Oregon.....	-90.7	Washington.....	-108.6
Oregon.....	-23.8	Illinois.....	-91.8	Oregon.....	-110.5
West Virginia.....	-27.4	Wisconsin.....	-95.2	Ohio.....	-118.3
Hawaii.....	-32.6	Ohio.....	-96.1	Michigan.....	-128.2
Illinois.....	-43.3	Washington.....	-112.6	Rhode Island.....	-134.1
Pennsylvania.....	-48.9	West Virginia.....	-130.9	West Virginia.....	-138.3
Michigan.....	-139.2	Pennsylvania.....	-216.4	Pennsylvania.....	-272.3

¹ Derivation: Rounded results of subtraction of 1940-50 elements (unrounded) from 1950-60 elements (unrounded).

Source: U.S. Department of Commerce, Office of Business Economics.

trial mix—performance of the States and regions. The regional share effects are the dynamic elements in change and therefore the more important over the long run. For example, it is usually by changing its shares of the several industries that an area changes the complexion of its industrial mix. And one way in which a region can expedite improvements in the industrial growth composition of its employment (as distinguished from maximizing the short-term total employment growth rate) is by cultivating share *gains* in rapid-growth sectors and share *losses* in slow growth sectors.

The middle map panels show the States with positive share components. Whereas there were 30 States with positive components in the 1940's, there were only 23 in the 1950's. From the list of States with positive share components in the earlier period, eleven were dropped (Indiana, Wisconsin, Minnesota, South Dakota, Nebraska, West Virginia, Kentucky, Tennessee, Wyoming, Washington, and Oregon) while four were added (New Hampshire, Delaware, Louisiana, and Hawaii).

As with top panel, the maps indicate change only when a State moves from positive to negative status or the reverse. The second column of table 6 presents the change in regional share performance for each State. Thus, at the top of the array, California is shown to have increased its already strong share status by 438.2 thousand employees. At the other end of the spectrum, Pennsylvania's share status declined by 216.4 thousand in the 1950's, as compared with the 1940's.

Exposition of the industrial roots of change is always important and the technique under description here always has an industrial dimension available for exploration. For example, the two largest identified industrial displacements contributing to California's improved industrial share position were electrical and other machinery manufacturing and other and miscellaneous manufacturing. In the case of Pennsylvania, at the other end of the array, the same two industrial categories appear to have been the largest contributors to its move in a negative regional share direction. Table 7 shows the

five States with greatest regional share augmentation and the five States with the greatest regional share reduction. Within each of the 10 States are shown the five industrial categories making the greatest contribution in the prevailing direction.

Factors underlying regional change

Although there are undoubtedly many reasons underlying the changes in the regional share of an industry's employment, a change in "competitive position" is often very important. Competitive position may be related to a region's access to markets on the selling side, and its access to raw materials, labor and other inputs on the buying side of a particular industry. In terms of these accessibilities, or other factors affecting change of share, the States which border the Nation on its Southeastern, Southern and Southwestern edges appear to have a current advantage. These States have increased their portion of the positive regional-share components in the 1950's, as compared to the 1940's. In fact, the net regional-share component total for thirteen States—California, Arizona, New Mexico, Texas, Louisiana, Mississippi, Alabama, Florida, Georgia, South Carolina, North Carolina, Virginia, and Maryland—accounted for 74.5 percent of the total in the 1940's (measured at the State level) and 89.7 percent in the 1950's.

When causes are sought to encompass the entire industrial spectrum, a wide range of questions is raised. In some States, notably California and Florida, the regional-share advantage expresses itself not only in broad basic industries such as agriculture, contract construction and manufacturing, but also, necessarily, in many trade and service industries which cater to the labor force employed in these basic lines. At the same time there is evidence that some States attract more than their proportionate share of the industries which are neither resource- nor market-oriented—the so-called "footloose" industries. Presumably these industries or occupations are seeking the conveniences and the amenities. The professions, including entire research and developmental complexes, may be influenced by these and related

considerations. Their location may involve, but is inevitably more complex than mere consideration of the number of sunny days per year. Obviously there is not room here to probe further the intricacies of industrial location theory and the bearing it may have on the observed changes in industrial shares of States and regions.

Table 7.—States With Largest Increases and Those With Largest Decreases in Regional-Share Effects From 1940-50 to 1950-60
(Thousands of employees)¹

Five states with largest increase in regional-share effects and five major contributing industries:	
California, total (from table 6).....	438.2
Electrical and other machinery manufacturing.....	120.4
Industry not reported.....	118.1
Other and miscellaneous manufacturing.....	90.6
Business and repair services.....	40.9
Medical, educational and other professional services.....	21.1
Florida, total.....	376.6
Other retail trade.....	43.3
Contract construction.....	39.9
Medical, educational and other professional services.....	36.6
Other and miscellaneous manufacturing.....	37.6
Industry not reported.....	36.9
Arizona, total.....	106.6
Contract construction.....	11.6
Medical, educational and other professional services.....	11.2
Mining.....	9.8
Electrical and other machinery manufacturing.....	8.5
Other and miscellaneous manufacturing.....	7.6
Hawaii, total.....	187.8
Armed forces.....	74.4
Contract construction.....	12.3
Agriculture.....	10.0
Food and kindred products manufacturing.....	4.3
Industry not reported.....	3.5
New Jersey, total.....	86.1
Industry not reported.....	64.2
Other retail trade.....	15.0
Medical, educational and other professional services.....	12.9
Business and repair services.....	12.9
Electrical and other machinery manufacturing.....	12.8
Five states with largest decrease in regional-share effects and five major contributing industries:	
Wisconsin, total (from table 6).....	-34.2
Other and miscellaneous manufacturing.....	-22.5
Electrical and other machinery manufacturing.....	-17.6
Agriculture.....	-15.6
Industry not reported.....	-14.1
Food and kindred products manufacturing.....	-14.1
Ohio, total.....	-36.1
Other and miscellaneous manufacturing.....	-61.6
Electrical and other machinery manufacturing.....	-37.6
Public administration.....	-14.7
Business and repair services.....	-7.4
Apparel and other fabricated textile products manufacturing.....	-5.1
Washington, total.....	-112.7
Armed forces.....	-54.5
Public administration.....	-15.4
Contract construction.....	-15.0
Medical, educational and other professional services.....	-14.3
Industry not reported.....	-13.2
West Virginia, total.....	-131.0
Mining.....	-54.7
Industry not reported.....	-14.7
Agriculture.....	-10.7
Medical, educational and other professional services.....	-7.7
Other retail trade.....	-5.8
Pennsylvania, total.....	-216.4
Electrical and other machinery manufacturing.....	-35.8
Other and miscellaneous manufacturing.....	-36.8
Mining.....	-38.8
Apparel and other fabricated textile products manufacturing.....	-25.2
Textile mill products manufacturing.....	-15.1

¹ Total for each State is from middle column of table 6.

Sources: U.S. Department of Commerce, Office of Business Economics.

Net relative change

Finally, the bottom panels of the maps show the States with positive net relative changes (the combination of industrial-mix and regional-share) in the two decades. These lower panels in effect are a summary of the corresponding top and middle panels. The shaded States are those whose total employment growth pace exceeded that of the Nation. These States increased their claim on the Nation's total employment. In the 1940's there were twenty States in this category, and in the 1950's, there were eighteen. The increments of the net relative gainers necessarily equal in absolute size the decrements of the net relative losers as indicated in table 3 (columns H and M for the earlier and later decades, respectively). The third column of table 6 presents the array of States, from California with the most favorable, to Pennsylvania with the most unfavorable displacement in terms of net relative change.

Applications to Local Areas

Up to this point the discussion has centered on regions and States, since these geographic units facilitate summary treatment. However, the ana-

lytical results for these larger areas are merely by-products of the locally oriented employment growth research now being undertaken by the Office of Business Economics.¹ The effort toward local analysis developed out of the knowledge that for many purposes, regions and States are too gross as geographic units of investigation. If the objective is to examine the economic growth of a metropolitan area, a river basin or an interstate transportation corridor, smaller building blocks are obviously required. In order to serve such purposes, a special project involving 3,102 local areas (mostly counties) is nearing completion. These areas have been analyzed in terms of the 32 industries considered here.

The growth components now available for local areas over the 1940-50 and 1950-60 periods are similar to those shown for the State of Washington in

¹ This research effort finds its technical antecedents in the work of Daniel Creamer, "Shifts of Manufacturing Industries," Chapter 4 of *Industrial Location and National Resources*, December 1942 (Washington, D.C.: U.S. Government Printing Office, 1943), 34-104 and Edgar S. Dunn, Jr., "A Statistical and Analytical Technique for Regional Analysis," *The Regional Science Association Papers and Proceedings*, Volume VI, 1960, 87-112.

The collaborations of other Commerce Department agencies were indispensable to this first effort. Among these were the financial contributions of the Area Redevelopment Administration and the technical participations of the Bureau of the Census (in data preparation) and the National Bureau of Standards (in data processing).

table 2. In fact, the results shown in that table could have been derived as the simple algebraic sum of the corresponding growth components for the State's counties. It is a corollary fact that the results for any geographic entity built up from local area building blocks, whether summed from the latter or analyzed in one piece, will be the same.

An illustration of this geographic comparability may be seen in the analysis of the employment growth characteristics for the Philadelphia Standard Metropolitan Area in table 8. Here the results are shown as the totals of the summary line results for the constituent counties. However, given the area-wide data, the analytical results would have been identical as a consequence of the application of the corresponding technique.

Table 8 illustrates how counties may be shown in relation to the larger Standard Metropolitan Statistical Area entity; the latter, in turn, finds its proper orientation in a two-State region. Likewise, the two-State area forms a part of the Mideast region shown in table 3, which finds its distinctive place in the entire national framework. This feature of direct compatibility opens numerous accessible lines of investigation into alternate regional groupings—each with its own distinct pattern or purpose.

Finally, it should be emphasized that the compatibility of local with larger geographic areas is not merely applicable at the summary line, but also throughout the entire industrial range. Thus, whatever the geographical configuration at which the investigator may pause, he finds at hand the detailed information for the corresponding exploration in industrial depth.

In summary, the technique described offers a comprehensive and direct tool for relating either industrial or regional growth to the overall national growth pace in terms of employment or other economic variables. Currently planned publications dealing with local area employment growth in the manner described here are drawn from a wider effort newly initiated in the Office of Business Economics to enrich both the informational base and the analytical options available to industrial and regional analysts.

Table 8.—Employment and Components of Employment Change, Philadelphia Standard Metropolitan Statistical Area, 1940-50 and 1950-60¹

(Thousands of employees)²

	Employment			1940-50					1950-60				
	1940	1950	1960	Changes related to			Total change ³	Net relative change ⁴	Changes related to			Total change ³	Net relative change ⁴
				National growth	Industrial mix	Regional share			National growth	Industrial mix	Regional share		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
Pennsylvania.....	3,236.2	3,348.8	4,145.1	365.3	122.9	-264.7	718.6	-142.7	611.3	66.1	-482.1	195.3	-415.8
New Jersey.....	1,362.1	1,397.9	2,397.1	436.4	157.2	-147.5	428.0	5.6	363.2	159.4	-33.5	489.1	30.3
2-State total.....	4,598.3	4,746.7	6,542.2	801.7	280.1	-412.2	1,146.6	-137.1	974.5	225.5	-515.6	684.4	-385.5
Philadelphia.....	1,104.9	1,465.9	1,683.8	310.6	103.8	-112.3	302.2	-8.4	237.1	113.9	-123.1	227.9	-4.2
SMSA.....	2,093.9	2,282.7	3,318.9	712.0	181.9	-304.1	589.8	-122.7	509.4	123.4	-403.5	229.3	-250.1
Other SMSA's.....	940.9	1,189.2	1,364.9	251.1	6.8	4.0	249.8	-2.5	164.0	-29.3	-14.0	144.3	-39.8
Non SMSA counties.....	1,104.9	1,189.2	1,364.9	251.1	6.8	4.0	249.8	-2.5	164.0	-29.3	-14.0	144.3	-39.8
Philadelphia SMSA by County:													
Bucks (Pa.).....	49.7	58.7	111.4	10.9	-0.3	7.2	18.0	7.1	9.1	0.5	43.1	52.7	43.6
Montgomery (Pa.).....	100.8	141.4	202.0	38.2	2.9	-0.2	31.9	2.7	21.9	9.3	29.4	60.6	33.7
Chester (Pa.).....	47.1	64.1	78.3	13.6	-1.7	3.2	14.0	1.3	9.5	1.4	8.5	17.4	7.9
Philadelphia (Pa.).....	205.7	334.7	798.4	187.6	74.8	-131.4	131.0	-54.6	120.2	66.9	-234.4	38.8	-157.5
Delaware (Pa.).....	116.6	154.9	207.3	30.3	12.8	-1.9	41.2	10.4	24.8	16.2	10.0	51.0	26.2
Burlington (N.J.).....	33.9	62.1	67.6	9.0	1.2	35.0	38.2	19.2	9.6	15.4	15.4	35.5	25.9
Camden (N.J.).....	39.7	117.7	147.1	22.9	13.4	-9.5	26.8	4.1	18.2	12.5	-1.7	29.4	11.1
Gloucester (N.J.).....	24.8	24.3	48.5	6.6	1.0	2.3	9.7	3.2	5.3	1.5	8.6	15.2	9.0
Total Phila. SMSA.....	1,164.9	1,464.9	1,683.8	310.6	103.8	-112.3	302.2	-8.4	237.1	113.9	-123.1	227.9	-4.2

¹ Derivation of each component is explained on pages 14 and 15. Note.—Detail will not add to totals due to rounding.
² Components are the result of summation across analytical results for each of 32 industrial categories. Data are from the U.S. Census of Population.
³ Sum of components D, E, and F for 1940-50 and I, J, and K for 1950-60.
⁴ Sum of columns E and F for 1940-50 and J and K for 1950-60.